Determining the Long-Term Risks of Recidivism and Registration Failures among Sexual Offenders[1]

Daniel B. Freedman
Marywood University

SINCE THE PSYCHOPATHOLOGY statutes of the 1930s, concerned members of society have emphasized the penology of sexual offenders (Cole, 2000). Because sexual crimes are perceived as so heinous, crimes committed by known sexual offenders, acts referred to as recidivism, have become a salient area of scholarship (Furby, Weinrott, & Blackshaw, 1989). In research, sexual offender recidivism is made operational as arrests, convictions, or incarcerations for criminal activities (Center for Sex Offender Management, 2002). Research on rates of sexual offender recidivism have found results varying among studies from occurrences lower than 10 percent to higher than 50 percent (Hanson & Bussiere, 1998).

In an effort to account for the differences, risk factors that predict recidivism have been postulated (Proulx, Pellerin, Paradis, McKibben, Aubut, & Ouimet, 1997). The results are two disparate types of risk factors: static and dynamic. Static factors are unchangeable characteristics such as age and number of previous convictions, while dynamic factors are potentially changeable (e.g., levels of empathy and pro-criminal attitudes). Additionally, Hanson (2002) discerned that sexual offenders are at risk of recidivism for many years. Hanson and Morton-Bourgon (2005) commented that tracking periods as long as six years still underestimated recidivism, because many episodes were not detected.

Legislators, spurred on by special interest groups, have sought to address the risks sexual offenders pose to the community through such means as the sexual offender registration and community notification mandates of the 1990s and early 21st century (Edwards & Hensley, 2001). These risk management paradigms involved identifying sexual offenders as low-, moderate-, or high-risk based on likelihoods for recidivism (Edwards & Hensley, 2001; Winick, 1998). For the purposes of refining assessments, static risk factors were aggregated into actuarial instruments, and in turn these measures predicted recidivism with at least moderate accuracy (Ducro & Pham, 2006; Hanson & Thornton, 2000; Harris, Phenix, Hanson, & Thornton, 2003; Vogel, Ruiter, Beek, & Mead, 2004). Examples of these instruments include the sex offender risk appraisal guide (SORAG) and Static-99.

The findings consistently revealed that age, previous convictions, and offender type were static predictors of recidivism (Hanson & Bussiere, 1998). While there was some evidence that supported the association between being a racial minority and recidivism (Hanson & Bussiere, 1998), other evidence negated the association (Duwe & Donnay, 2010; Hanson & Harris, 2001). Overall, these studies did not qualify the specific races, thereby leaving considerable ambiguity. Levenson, Letourneau, Armstrong, and Zgoba (2010) did find that being white decreased the likelihood of recidivism. However, there remained a paucity of information on which race(s) predicted recidivism.

Registration failure, another potential risk factor, has only recently been linked to recidivism. Research on this risk seemed

prudent because sexual offender registration has become ubiquitous across the United States and globally (Center for Sex Offender Management, 2002, 2009). Moreover, Duwe & Donnay (2010) found that registration failures were the most common infractions among sexual offenders. So far, scholarship has yielded mixed support for predicting recidivism from registration failures. Levenson et al. (2010), in a sample of 2,970 sexual offender registrants, found that failure to register significantly increased the likelihood of recidivism (by 65 percent). On the other hand, Duwe and Donnay (2010), in a sample of 1,561 sexual offender registrants released from prison, determined that registration failures did not have a significant effect on recidivism.

The present study examines (1) the association between recidivism and registration failures, and (2) the utility of static risk factors, including registration failures, for predicting recidivism. In some aspects, this study replicates the project by Levenson et al. (2010); however, this is necessary because of the novelty of the topic and because registration requirements vary among jurisdictions across the United States (Center for Sex Offender Management, 2002, 2009). As such, the following research questions for this project are:

1. How many sexual offenders recidivate?
2. How many sexual offenders have registration failures?
3. What is the survival function for recidivism?
4. Is recidivism associated with registration status?
5. Is recidivism associated with race?
6. Is registration status associated with race?

[1] Correspondence concerning this article should be addressed to Daniel B. Freedman, School of Social Work and Administrative Studies, Marywood University, 2300 Adams Ave., Scranton PA, 18509. E-mail: dfreedman@maryu.marywood.edu

7. Can the likelihood of recidivism be predicted from a combination of registration status, race, age, previous convictions, and offender type?

Method

This study analyzes secondary data from official crime sources. In an effort to provide fruitful results, sexual offenders are tracked for recidivism and registration failures for more than nine years (109 months). The correlates and predictors of recidivism and registration failures are race (black and white), age, previous convictions, and offender type (adult offender and child offender). Registration failures, in addition to being an outcome variable, also has a dual role as a predictor of recidivism.

Participants

The sample consists of 191 individuals who registered as sexual offenders in North Carolina. All registered in the same county, a jurisdiction with an approximate population size of 1,000,000. The participants have several characteristics in common, including (1) having been convicted of an offense that required sexual offender registration (chapter 14 of North Carolina state statutes), and (2) registering during the three-year time span from 2000 to 2002. The typical characteristics of the sample include being black (62.90 percent), M_{age} = 45.82, 1.63 convictions prior to registration, and convicted for taking indecent liberties with a child (65.60 percent).

Data Sets and Variables

All data come from the following three sources: North Carolina Department of Corrections (NCDOC), North Carolina Sex Offender Registry (NCSOR), and a county sheriff's department (CSD). Data from the NCDOC is the primary data source for recidivism, registration status, race, previous convictions, and offender type. The NCSOR has similar information, which is triangulated to improve accuracy, and additional information on the participants' age. Finally, the CSD serves as the source for the participants' names and dates of registration. To ensure confidentiality, names are immediately replaced with numbers (1 to 191) when inputting and analyzing the data.

Sexual offender recidivism research typically uses arrests, conviction, or incarcerations to approximate recidivism (Center for Sex Offender Management, 2002). In this current study, convictions are made operational for recidivism, because this represents a balance between arrest measures, which are more

lenient, and incarcerations, which are more stringent (Andrews & Bonta, 2003; Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005). Outcome variables, recidivism and registration failures, are dichotomous variables that have codes of zero (non-recidivist and registration compliant) and one (recidivist and registration failure). Recidivism indicates that a sexual offender has a conviction post-registration, while a registration failure demarcates that a sexual offender is not compliant with registration mandates.

Age and previous convictions are straightforward measures of participants' age and the total number of previous convictions prior to registration. Race and offender type are dummy-coded to produce two variables per construct: black, white; adult offender, child offender. Race, in the initial data set, is separated into five categories. However, only 6.80 percent (n = 13) of participants are considered Asian, Hispanic, or from the "Other" category. Thus, these 13 participants are placed into the reference groups when computing the variables black and white. As for offender type, this refers to the type of victim the sexual offenders target: adults or children. It is unclear what type of victim 13.60 percent (n = 26) of the participants targeted, and therefore these 26 individuals will also be part of the reference groups when computing the variables child offender and adult offender.

Data Analysis

This research uses descriptive statistics, including measures of central tendencies, measures of variability, and a Kaplan-Meier survival analysis estimator. Moving to bivariate analyses, multiple tests (chi-squares, Pearson coefficients, and eta coefficients) will determine the associations among the research variables. Finally, a proportional hazards model will estimate the likelihood of recidivism as a function of registration failures, black, age, previous convictions, and adult offenders.
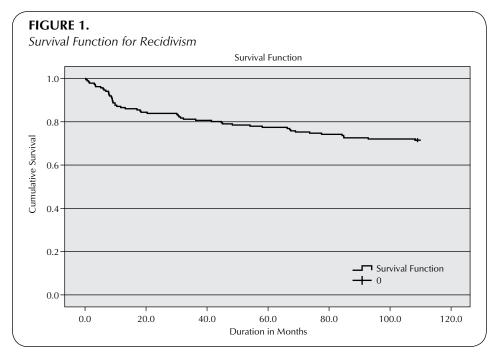
Results

The results begin with descriptive statistics. In terms of the two continuous variables age approximates a normal distribution; however, previous convictions is positively skewed, as most sexual offenders have between one and four convictions, but several have more than four. Transitioning to the categorical variables, most sexual offenders do not have recidivism or registration failures, are black, and are child offenders. A total of 28.49 percent of sexual

offenders recidivated (n = 53), and 21.51 percent had registration failures (n = 40). As a group, the recidivists accounted for 132 acts of recidivism, or 2.49 convictions per individual. Most recidivists had one conviction (53 percent), with two and four convictions representing the second-highest categories (13 percent).

The typical characteristics of a recidivist include not having a registration failure (68 percent), being black (77 percent), M_{age} = 43.0, and being a child offender (64 percent). However, these factors change when accounting for group sizes among the categorical variables. In particular, race is the only variable that does not change, as blacks still have more recidivism than whites, with the former category having 35 percent compared to 17 percent for the latter. However, registration failures and offender type are reversed, as individuals with registration failures recidivated at a higher rate than those who were registration compliant (42 percent vs. 25 percent), and adult offenders recidivated more than child offenders (33 percent vs. 27 percent).

The typical characteristics for those with registration failures include being a non-recidivist (58 percent), black (80 percent), M_{age} = 45, and a child offender (82 percent). In a similar pattern to recidivism, these typical factors are portrayed differently when accounting for the group sizes of categorical variables. However, recidivism is the sole variable that is reversed, as recidivists have more registration failures than non-recidivists, with the former category showing 32 percent compared to 17 percent for the latter. The trends for race and type of offender remain consistent: blacks have more registration failures than whites (27 percent vs. 12 percent), while child offenders have more registration failures than adult offenders (26 percent vs. 12 percent).

The Kaplan-Meier survival function estimator indicates that the average recidivist survives for 30.37 months (SD = 29.73), and that this distribution is positively skewed. More specifically, the risk of recidivism is greatest during the first year of tracking and then systematically declines as a function of time. A proportion of .87 survive the first year, and then the risk curve flattens over the subsequent five years to .84 (second year), .81 (third year), .79 (fourth year), .77 (fifth year), and .75 (sixth year). At the time of data censoring (109 months), a proportion of .72 sexual offenders survive. The survival function is located in figure 1.

FIGURE 1.

Survival Function for Recidivism

Bivariate Analysis

Chi-square analyses reveal that there are associations between recidivism and registration failures (x^2 = 4.91, p < .05), recidivism and black (x^2 = 6.64. p < .05), registration failures and black (x^2 = 6.38, p < .05), plus registration failures and child offenders (x^2 = 4.45, p < .05). While the eta coefficient for recidivism and age is .21, recidivism and previous convictions is .18, and registration failures and previous convictions is .21. Out of all of these relationships, the only negative association is between recidivism and age. Correlations among the eight research variables are displayed in table 1. Taken as a whole, recidivism is associated with registration failures, black, age, and previous convictions, while registration failures are associated with recidivism, black, previous convictions, and child offenders.

Multivariate Statistics

A proportional hazards model determines the influences of five predictors (registration failures, black, age, previous convictions, and adult offenders) on recidivism. Table 2 displays that the proportional hazards model statistically fits the data at a -2 log likelihood of 471.84 (x^2 = 24.41, p < .001). As for the predictors, age (Wald = 10.97, p < .01), previous convictions (Wald = 5.63, p < .05), and adult offenders (Wald = 4.84, p < .05) are associated with recidivism. In summary, a 1 year decrease in age increases the likelihood of recidivism by 6 percent, an increase of 1 conviction increases the likelihood of recidivism by 13 percent, and being an adult offender increases the likelihood of recidivism by 211 percent. Further, there are substantive implications for registration failures and black,

as having a registration failure increases the likelihood of recidivism by 64 percent, while being black increases the likelihood of recidivism by 87 percent.

Discussion

Sexual offender recidivism has been well documented in multiple settings, samples, and outcome measures (Hanson & Bussiere, 1998). As such, many of the findings in this study are expected. For instance, the recidivism rate (28.49 percent) falls within the range of 20 to 40 percent observed in many other projects (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005). Additional consistencies include that sexual offenders are at risk for an extended period of time (Hanson, 2002), but the greatest risk is during the first several years of tracking (Firestone, Bradford, McCoy, Greenberg, Larose, & Curry, 1999; Greenberg, Bradford, Firestone, & Curry, 2000; Hanson, Steffy, & Gauthier, 1993; Levenson et al., 2010). Further, age is negatively associated with recidivism (Hanson), while previous convictions have a positive association (Hanson & Morton-Bourgon, 2009).

In terms of registration failures, this study detected rates (21.51 percent) that doubled the observations from other research projects (Duwe & Donnay, 2010; Levenson et al., 2010). This may be due to this study's longer tracking period or smaller sample size, reflect differential law enforcement among jurisdictions, or combine all three factors. Similar to Levenson et al., this research yields support for the relationship between recidivism and registration failures. The bivariate association is statistical, while the multivariate link is substantive. Moreover, this research has substantive implications that are equal to the Levenson et al. study, since this research finds that having a registration failure increases the likelihood of recidivism by 64 percent (compared to 65 percent for Levenson et al.). The consistency of this finding is striking, and makes sense when considering the similar sampling frames (i.e., both drawn from state sexual offender registries).

Limitations

This study has two data collection issues. First, information for recidivism and registration failures is missing for five participants (2.62 percent of the sample). This may be due to multiple circumstances, including the possibility that individuals were noncompliant with registration mandates or were homeless. Second, the two dummy-coded variables for

TABLE 1.

Correlations among the Research Variables

Variable	1	2	3	4	5	6	7
Recidivism	—	—	—	—	—	—	—
Registration Failures	.16*	—	—	—	—	—	—
Black	.19*	.19*	—	—	—	—	—
White	-.14	-.14	-.86**	—	—	—	—
Age	-.21**	-.06	-.15	.20**	—	—	—
Previous Convictions	.18*	.21**	.21**	-.17*	.01	—	—
Adult Offenders	.13	-.10	.15*	-.08	.13	.13	—
Child Offenders	-.06	.16*	-.01	.08	-.11	-.10	-.70**

Note. The variables black, white, adult offenders, and child offenders are dummy-coded.
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

TABLE 2.
Proportional Hazards Model for Predicting Recidivism

Variables	B	SE	Wald	Sig	Exp (B)
Registration Failures	.49	.31	2.51	.11	1.64
Black	.63	.35	3.28	.07	1.87
Age	-.06	.02	10.97	.00**	.94
Previous Convictions	.13	.05	5.63	.02*	1.13
Adult Offenders	.75	.34	4.84	.03*	2.11
-2 Log Likelihood 471.84	Chi Square 24.41		DF 5	P < .001	

Note. The variables black, white, adult offenders, and child offenders are dummy-coded.
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

offender type may be inaccurate or skewed because specific crime information is unavailable for 26 participants. To review, these 26 cases are placed in the reference categories when dummy-coding the variables adult offenders and child offenders. However, it is plausible that most of these cases have offenses against children, or likewise that most enact crimes towards adults. Thus, there are most likely inaccuracies as offenders are misclassified into the wrong groupings.

In addition to the data collection issues, sample size is another limitation of this study. For instance, there are limited observations of sexual recidivism in this study. More specifically, 7 (3.66 percent of the sample) out of 191 participants have sexual recidivism, making it difficult to infer substantive implications. As a result, the variable sexual recidivism is deleted from this project. However, the observations of sexual recidivism will theoretically rise to 70 if the 3.66 percent base rate remains constant and the sample is increased tenfold to 1,910 participants. Thus, the rate of sexual recidivism will still be low, but the observations can be aggregated to create a meaningful variable that has substantive implications. Nonetheless, the sample size of 191 does have adequate sample size for the parameters (df = 5) of the proportional hazard model (Kraemer & Thiemann, 1987). Finally, it would strengthen the methodology if sexual offender registrants were randomly selected from all jurisdictions across North Carolina, and even among the 50 states. Yet, randomly assigning participants from the 50 states will be problematic, because each state has different criteria and protocols for sexual offender registration (Center for Sex Offender Management 2002, 2009).

Implications for Basic Research

Evidence is accumulating that registration failures are linked to recidivism. The substantive trends are clear, even in research that does not find a statistical association (Duwe & Donnay, 2010). What is not apparent is whether registration failures truly approximate or predict criminal behaviors, or whether instead they represent other characteristics such as intelligence, poor communication skills, or systemic differences among criminal justice jurisdictions. In addition, to postulate a link between recidivism and registration failures, on its face, is rather simplistic. Instead, the association will most likely be convoluted by multiple mediating and moderating influences (Duwe & Donnay, 2010; Losel & Schmucker, 2005). For instance, this research finds that child offenders have more registration failures.

The implications for predicting registration failures from being a child offender are novel. This research clearly demonstrates an association between child offenders and registration failures; however, much more research is needed. This is interesting because adult offenders tend to recidivate at higher rates than child offenders (Hanson & Bussiere, 1998); thus, one implication may be that disparate processes facilitate recidivism and registration failures.

Moving to implications for race, Duwe and Donnay (2010) found that risk of registration failures was greater for minorities, but there was nothing specific for being black. Conversely, Levenson et al. (2010) determined that being white reduced the risk of having a registration failure. Taking these outcomes and then integrating them with results from this study, what emerges is that being black or a racial minority increases the odds of having a registration failure, while being white decreases the odds. Further, this study finds similar racial discrepancies for recidivism. It goes without stating that more research can be dedicated to understanding the links between race(s) and crime or registration failures; however, what emerges is a potential for systematic discrimination towards racial minorities and blacks (Alexander, 2001) and privilege for whites (McIntosh, 2004). These assumptions can be bolstered from the findings that an offender's race is not so much a cause of crime but instead is moderated by systemic economic and social factors (Peterson, Krivo, & Harris, 2000).

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